REMARKS

Applicant has reviewed the Office Action mailed on January 25, 2006 as well as the art cited. Claims 1, 6-13, 19-26, 30-35, 37-40, 43-49, 51-53 and 57-59 have been amended. No new matter has been added. Claims 1-59 are pending in this application.

Summary of Examiner Interview

The Applicants' representatives, David Fogg (Registration Number 35,138) and Joseph Kendrick (Registration Number 53,109) thank Examiner Nguyen for the opportunity to discuss aspects of this case in a personal interview on May 8, 2006.

Claim 1 was specifically discussed with respect to the Examiner's rejection of these claim under 35 U.S.C. §103(a) as being unpatentable over Milliron in view of Schumann-Olsen. During the interview, Applicants' representatives asserted that neither Milliron nor Schumann-Olsen discussed the concept of comparing a hop count received via a discovery response message to a total number of received discovery response messages. The Examiner and the Applicants' representatives discussed a potential amendment to claims 1, 13, 26 and 35 to clarify that response messages were received from both the second communication device and any intervening communication devices and that the total number of received discovery response messages included discovery response messages received from the second communication device and from any intervening communication devices.

Applicants believe that the substance and scope of the personal interview of May 8, 2006 is accurately captured in the summary above and the arguments below.

Claim Objections

Claims 6-12, 19-25, 30-34, 37-39, 43-47, 49, and 51-53 were objected to because of informalities. Applicant traverses these objections.

Claims 6-12, 19-25, 30-34, 37-39, 43-47, 49, and 51-53 have been amended to address the informalities indicated by the Examiner. Withdrawal of this objection is requested.

Rejections Under 35 U.S.C. § 112

Claims 12, 25, 34, and 49-56 were rejected under 35 USC § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant traverses these rejections.

Claims 12, 25, 34, and 49-56 have been amended to address the antecedent basis issues indicated by the Examiner. Withdrawal of these rejections is requested.

Rejections Under 35 U.S.C. § 103

Claims 1-3, 5-16, and 18-39 were rejected under 35 USC § 103(a) as being unpatentable over Milliron et al. (U.S. Patent No. 6,208,670) in view of Schumann-Olsen et al. (U.S. Patent Publication No. 2002/0057652).

Examiner asserts that Milliron teaches "wherein the communication interface circuit (figure 7, reference 62) is adapted to compare a hop count from a discovery response message from a second communication device to a total number of received discovery response messages (figure 9, col 19 lines 30-67)."

Contrary to the examiners assertion, Milliron and Schumann-Olsen, either alone or in combination, do not teach "comparing a hop count from a discovery response message to a total number of received discovery response messages." In contrast to the present application, Milliron teaches "The COT 38 should receive an 'echoed' RUN signal having a value representing the value of the total number of downstream components. In the event that the value of the echoed RUN signal does not match **the known number of downstream components**, the COT 38 will determine that the digital carrier system has entered an error condition." Col. 19 lines 52-57. Further, in Milliron, "The COT determines whether the detected number of downstream components is equal to the known number of downstream components connected to the bidirectional communications link. This inquiry is conducted **by comparing the known number of downstream components** to the value of the RUN signal received by the COT" Col. 22 lines 47-53. Milliron and Schumann-Olsen, either alone or in combination, does not compare a hop count from a discovery response message to the total number of received discovery response messages. Instead, in Milliron, "The COT is preferably

programmed with the number of downstream components for a particular installation." Col. 21, 32-34.

In the independent claims of the present application the communication interface is adapted to compare a hop count from a discovery response to a total number of received discovery response messages rather than a known number of downstream components. With the present application, neither the value of the hop count nor the total number of received discovery response messages to be received are pre-programmed and known to the communication device when a discovery query is sent.

Independent claims 1, 13, 26 and 35 have been amended to clarify that the hop count is compared to a total number of discovery response messages received from a second communication device and any intervening communication devices.

For example, amended claim 1 provides:

"wherein the communication interface circuit is adapted to compare a hop count from a discovery response message from a second communication device to a total number of discovery response messages received from the second communication device and any intervening communication devices."

Because Milliron and Schumann-Olsen, alone or in combination, fail to disclose a communication interface circuit adapted to "compare a hop count from a discovery response message ... to a total number of discovery response messages received from the second communication device and any intervening communication devices" as provided by claim 1, claim 1 is allowable. Claims 2-3, and 5-12 depend on and further define independent claim 1, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Amended claim 13 provides:

"wherein the communication interface circuit is adapted to compare a hop count from the discovery response message from one of the at least two terminal

communication devices coupled to the communication link to a total number of discovery response messages received from the one of the at least two terminal communication devices and any intervening communication devices of the plurality of communication devices."

Because Milliron and Schumann-Olsen, alone or in combination, fail to disclose a communication interface circuit adapted to "compare a hop count from a discovery response message ... to a total number of discovery response messages received from the one of the at least two terminal communication devices and any intervening communication devices of the plurality of communication devices" as provided by claim 13, claim 13 is allowable. Claims 14-16, and 18-25 depend on and further define independent claim 13, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Amended claim 26 provides:

"wherein the HDSL communication circuit is adapted to compare a hop count from an HDSL discovery response message from a second HDSL communication device to a total number of HDSL discovery response messages received from the second HDSL communication device and any intervening HDSL communication devices."

Because Milliron and Schumann-Olsen, alone or in combination, fail to disclose an HDSL communication circuit adapted to "compare a hop count from an HDSL discovery response message ... to a total number of HDSL discovery response messages received from the second HDSL communication device and any intervening HDSL communication devices" as provided by claim 26, claim 26 is allowable. Claims 27-34 depend on and further define independent claim 26, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Amended claim 35 provides:

"wherein the HDSL communication interface circuit is adapted to compare a hop count from the discovery response message from one of the at least two terminal

HDSL communication devices coupled to the HDSL communication link to a total number of discovery response messages received from the one of the at least two terminal HDSL communication devices and any intervening HDSL communication devices of the plurality of HDSL communication devices."

Because Milliron and Schumann-Olsen, alone or in combination, fail to disclose an HDSL communication interface circuit adapted to "compare a hop count from the discovery response message ... to a total number of discovery response messages received from the one of the at least two terminal HDSL communication devices and any intervening HDSL communication devices of the plurality of HDSL communication devices" as provided by claim 35, claim 35 is allowable. Claims 36-39 depend on and further define independent claim 35, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Claims 4 and 17 were were rejected under 35 USC § 103(a) as being unpatentable over Milliron et al. (U.S. Patent No. 6,208,670) in view of Schumann-Olsen et al. (U.S. Patent Publication No. 2002/0057652), and further in view of Jones et al. (U.S. Patent No. 6,693,992). Applicant traverses these rejections.

Claim 4 depends on and further defines claim 1. Because Milliron, Schumann-Olsen, and Jones, alone or in combination, fail to disclose a communication interface circuit adapted to "compare a hop count from a discovery response message ... to a total number of discovery response messages received from the second communication device and any intervening communication devices" as provided by claim 1, claim 1 is allowable and for at least this reason claim 4 is also allowable. Applicant respectfully requests withdrawal of this rejection.

Claim 17 depends on and further defines claim 13. Because Milliron, Schumann-Olsen, and Jones, alone or in combination, alone or in combination, fail to disclose a communication interface circuit adapted to "compare a hop count from a discovery response message ... to a total number of discovery response messages received from the one of the at least two terminal communication devices and any intervening communication devices of the plurality of

communication devices" as provided by claim 13, claim 13 is allowable and for at least this reason claim 17 is also allowable. Applicant respectfully requests withdrawal of this rejection.

Claims 40-59 were were rejected under 35 USC § 103(a) as being unpatentable over Milliron et al. (U.S. Patent No. 6,208,670).

Examiner asserts that Milliron teaches "comparing the number of discovery messages to a hop count of the discovery response message from the terminal device to determine if discovery is complete."

Contrary to the examiners assertion, Milliron, does not teach "comparing the number of discovery messages to a hop count of the discovery response message from the terminal device to determine if discovery is complete." In contrast to the present application, Milliron teaches "The COT 38 should receive an 'echoed' RUN signal having a value representing the value of the total number of downstream components. In the event that the value of the echoed RUN signal does not match **the known number of downstream components**, the COT 38 will determine that the digital carrier system has entered an error condition." Col. 19 lines 52-57. Further, in Milliron, "The COT determines whether the detected number of downstream components is equal to the known number of downstream components connected to the bidirectional communications link. This inquiry is conducted **by comparing the known number of downstream components** to the value of the RUN signal received by the COT" Col. 22 lines 47-53. Milliron and Schumann-Olsen, either alone or in combination, does not compare a hop count from a discovery response message to the total number of received discovery response messages. Instead, in Milliron, "The COT is preferably programmed with the number of downstream components for a particular installation." Col. 21, 32-34.

In the independent claims of the present application the communication interface is adapted to compare a hop count from a discovery response to a total number of received discovery response messages rather than a known number of downstream components. With the present application, neither the value of the hop count nor the total number of received discovery

response messages to be received are pre-programmed and known to the communication device when a discovery query is sent.

Independent claims 40, 49, and 57-59 have been amended to clarify that the hop count is compared to a total number of discovery response messages received from a second communication device and any intervening communication devices.

For example, amended claim 40 provides:

"comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices to a hop count of the discovery response message from the terminal communication device to determine if discovery is complete."

Because Milliron fails to disclose a method comprising "comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices to a hop count of the discovery response message from the terminal communication device to determine if discovery is complete" as provided by claim 40, claim 40 is allowable. Claims 41-49, depend on and further define independent claim 40, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Amended claim 49 provides:

"determining if discovery is complete by comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices to the hop count from the discovery response message from the at least one terminal communication device."

Because Milliron fails to disclose a method comprising "determining if discovery is complete by comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices to the hop count from the discovery response message from the at least one terminal communication device" as

provided by claim 49, claim 49 is allowable. Claims 50-56, depend on and further define independent claim 49, and for at least this reason are also allowable. Applicant respectfully requests withdrawal of these rejections.

Amended claim 57 provides:

"comparing a total number of discovery response messages received from the terminal HDSL communication device and any intervening HDSL communication devices to a hop count from a discovery response message from the terminal HDSL communication device to determine if discovery is complete."

Because Milliron fails to disclose a method comprising "comparing a total number of discovery response messages received from the terminal HDSL communication device and any intervening HDSL communication devices to a hop count from a discovery response message from the terminal HDSL communication device to determine if discovery is complete" as provided by claim 57, claim 57 is allowable. Applicant respectfully requests withdrawal of this rejection.

Amended claim 58 provides:

"determining if discovery is complete by comparing a total number of discovery response messages received from the terminal HDSL communication device and any intervening HDSL communication devices coupled to the HDSL communication link to a hop count from the discovery response message from the terminal HDSL communication device"

Because Milliron fails to disclose a method comprising "determining if discovery is complete by comparing a total number of discovery response messages received from the terminal HDSL communication device and any intervening HDSL communication devices coupled to the HDSL communication link to a hop count from the discovery response message from the terminal HDSL communication device" as provided by claim 58, claim 58 is allowable. Applicant respectfully requests withdrawal of this rejection.

Amended claim 59 provides:

"comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices coupled to the communication link to a hop count from the discovery response message from the terminal communication device to determine if discovery is complete."

Because Milliron fails to disclose a method comprising "comparing a total number of discovery response messages received from the terminal communication device and any intervening communication devices coupled to the communication link to a hop count from the discovery response message from the terminal communication device to determine if discovery is complete" as provided by claim 59, claim 59 is allowable. Applicant respectfully requests withdrawal of this rejection.

CONCLUSION

Applicant respectfully submits that claims **1-59** are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at .

Respectfully submitted,

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